ABSTRACT

The present invention provides surface coated phosphors useful in field emission displays and vacuum fluorescent displays. The surface coated phosphor comprises a thin coating of rare earth oxide, e.g., yttrium oxide, disposed on an uncoated phosphor such as a sulfide phosphor. The present invention further provides a process for preparing a surface coated phosphor comprising contacting the uncoated phosphor with a rare earth hydroxide gel solution to obtain a rare earth hydroxide gel coated phosphor, drying the gel coated phosphor to remove solvent residues, and heat treating the dried rare earth hydroxide gel coated phosphor. The surface coated phosphors of the present invention have improved cathodoluminescence efficiency, coulombic aging resistance, chemical, and/or oxidative stability.